

CONSTRUCTIVIST APPROACH IN TEACHING

RAJNI GUPTA¹ & VEENU GUPTA²

¹Govt Hr. Sec. School Jourian, Tehsil Jourian, Jammu, Jammu and Kashmir, India

²Army Public School Rakhmuthi, Mewa Karora, Jammu and Kashmir, India

ABSTRACT

Introduction

We all are living in 21st century where there is advancement in technology and innovation. So it is quite difficult to develop the scientific thinking in children with old teacher centric approaches. We need to be a facilitator instead of teacher. Child is not like blank slate, he is full of ideas and being a teacher we need to act as facilitator who can unfold the hidden ideas with creative approach i.e. constructive approach of teaching.

Meaning of Constructivist Approach of Teaching

Constructivist approach of teaching is based on constructivist learning theory. According to this approach, No learning is possible until and unless learner are involved in teaching learning process. According to this theory, all knowledge is based on the prior knowledge. Therefore, a child learns better when a teacher listen his ideas and motivate him to develop his ideas in channelized way. We all know “The best teacher of a child is his last mistake”. When he performs the ideas and fined the result, then he gets new ideas for improvement and better results.

Characteristics Constructivist Approach of Teaching

- child centric approach
- democratic
- activity oriented
- supports learning by doing
- makes a child responsible and autonomous
- self-dependent

Methodology in Constructivist Approach

- Experimentation method
- Research project
- Field Trips
- discussion
- Survey

Role of Teacher as per Constructive Approach

In teaching learning process teacher always plays an important role and try to imbibe his ideas in child mind but this approach believes that a teacher should act as facilitator who promote the creative thinking of child in this own way. Three roles for teacher to support a child in learning environment as:

- Modeling
- Coaching
- Scaffolding

How to Do Assessment

- oral discussions
- KWL chart(What we know, what we want to know, what we have learned, how we know it)
- mind mapping
- hands on activities
- Pre testing

Problems Faced By Teachers in Class Room

- Old strategies of teaching are preferred.
- Too much syllabus
- Dogmatic thinking
- Lack of creative teachers.
- Over dominance of examination
- Lack of integrated topics.

Ways to Overcome Problems

- Trained teachers
- In-service workshops
- Revised curriculum
- 2 time examination in a year.(Term I & term 2)
- Integrated subjects

Conclusion

In my opinion nothing is possible until and unless we want to accept the others ideas and stop thinking as dominant teacher. Let we act as facilitator not as a dominant teacher. *No idea can grow in the boundaries, let we give wings to the ideas of child and decide him to take his flight.* Constructive approach is a boon to the present teaching

learning process but we all need to encourage the learning by doing and building of new ideas from pre existing ideas. As cell theory says” all cells arise from pre-existing cells. Similarly “Knowledge already reside in human body we need the ways to explore it”

KEYWORDS: Modeling; Coaching Scaffolding

INTRODUCTION

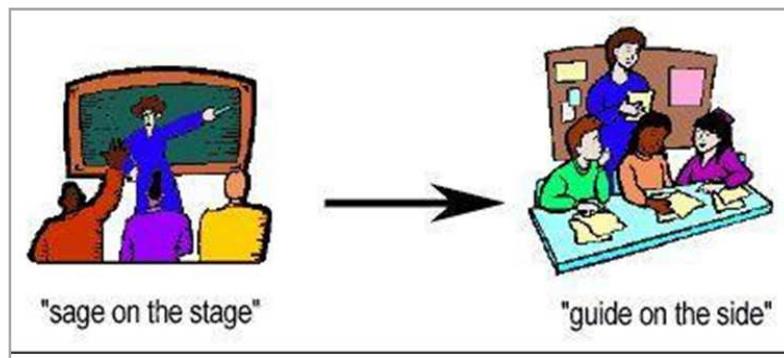


Figure 1

We all are living in the 21st century where there is advancement in technology and innovation. So it is quite difficult to develop the scientific thinking in children with old teacher centric approaches. We need to be a facilitator instead of teacher. The child is not like a blank slate, he is full of ideas and being a teacher we need to act as facilitators who can unfold the hidden ideas with creative approach, i.e. constructive approach of teaching. There are following assumptions related to learning are given below:

- Learning is the process of accumulating bits of information and isolated skills.
- The teacher's primary responsibility is to transfer knowledge directly to students.
- The process of learning and teaching focuses primarily on the interactions between the teacher and individual students.

In this tradition, the teacher transmits information that the learner receives. Mere the knowledge of 3'R is not education. The Objectivist philosophy believes that the role of the teacher is to provide knowledge but students have to replicate that knowledge with their experiences.

In this decade 2010-20 — decade of innovation. We the teachers are the pillars of the nation who all need to understand our duties and need to explore child instead of encouraging him to learn old facts only.

Let's we all go for change, where the children can explore themselves and find the hidden knowledge behind the universe.

RESEARCH METHODOLOGY

The present study was conducted among teaching institutions, including teachers and children. Both primary and secondary sources of data were used in the study.

Primary Data

- Visit to CBSE Schools and Govt. Schools.
- Interviewed teachers teaching in different CBSE Schools and Govt. Schools.
- Conversation with the office staff of teaching department.

Secondary Data

- Reports on Constructivism
- NCF-2005.
- Newspaper (The Times of India, The Hindustan Times)
- Web sites
- Journals
- Books

CONSTRUCTIVIST APPROACH TO TEACHING

Meaning of Constructivist Approach of Teaching

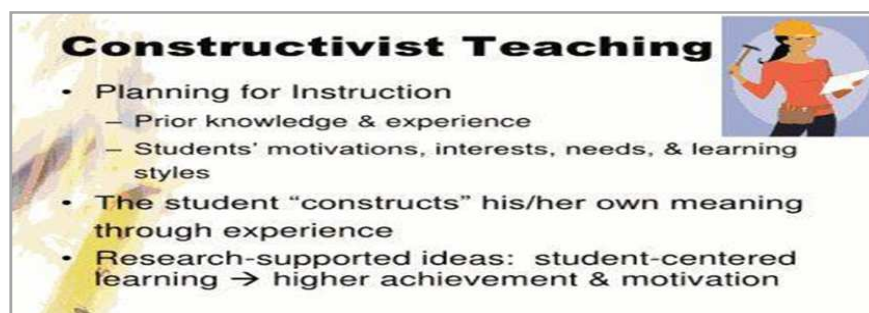


Figure 2

Constructivist Teaching is based on constructivist learning theory. Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information. Learners are the makers of meaning and knowledge.

Constructivism was evolved from the study of cognitive development. Two prominent psychologists who played an important role in the development of constructivism were Swiss Psychologist Jean Piaget and the Russian Psychologist Lev Vygotsky. According to constructivist, knowledge can be developed only due to the active participation of the children. When a child is fully involved in learning, he explores himself beyond the limits. According to Jean Piaget, Knowledge can be developed by observation and experimentation. On the other hand, Vygotsky believed that knowledge can be developed by the social interaction with a knowledgeable person. Human is unable to understand and use the information without undergoing the reconstruction of experiences. Constructivism is a child centric approach which decides the aims of education, curriculum and method of teaching according to the individual differences and child active participation. No learning can take place until and unless his learners are not actively involved. When a child gets involved, his thinking, reasoning, analysis, observation, etc. skills, develops which lead him to construct an original idea of his own experience.

This approach always creates young scientist, artist, engineers, poets, researchers, etc. Constructivism aims to prepare a child for the future.



Figure 3

The teacher plays an important role in arousing interest. He acts like a facilitator who guides the energy of a child. He acts like a catalyst that enhances the rate of reaction without utilizing himself. He encourages the learner to question, challenge and formulate an idea. Once an idea is created, it will lead to construct something creative as well as innovative. It is well said, “An idea can change a world which is possible because of constructivism”.

So we can say constructivism means “to construct” knowledge by an active participation of children.

CHARACTERISTICS OF CONSTRUCTIVIST CLASSROOM

- Democratic environment
- Child centric environment
- No fixed curriculum
- The teacher acts as facilitator.

Learning is a lifelong process where a child gathers experiences throughout life. In constructivist approach, a child is like an artist who has clay, stencils, colours etc. Now it's up to his mind, creativity where they all create different articles using same material

Examples of Activities in Constructivist Teaching

Constructivist believes in learning by doing method. Only those activities must be practiced in the classroom, which can encourage experimentation, direct experience, creativity, reasoning, positive attitude etc.

Experimentation

Experimentation always allows the children to face the reality. It develops the reasoning, analytic skills, thinking, accuracy and scientific temper etc.

Example: Natural Indicators and their Results in Acidic and Basic Solution

Table 1

S. No	Name of the Indicator	Acidic Solution	Basic Solution
1	Litmus Paper		
2	Phenolphthalein		
3	Methyl Orange		
4	Tamarind		
5	Red Cabbage		
6	China Rose Solution		
7	Rosa Indica Solution		

These types of activities help a child to understand the acid, bases and indicators properties. Whenever they will eat anything, it will develop curiosity to know the nature of substance.

Problem Solving Activities

Teacher must encourage problem solving activities in the classroom. Problems always develop intellect and innovativeness among the children.

Project Method

Learning is not possible without the involvement of children. Project method helps a child to understand the problem and find the practical solution. Project method develops:

- Data collection
- Presentation skills
- Observation
- Inference

Direct Experience

It is the role of teacher to select that activity which can provide direct experience to the learners.

Example: Collect the leaves of ten medicinal plants and write their uses.

Research Projects:

Students research a topic and can present their findings to the class. It always helps in the collection of data and respect for others research. It develops the correlation, innovativeness, creativity, judgment etc.

Example: if a teacher gives a research project on Diabetes and assign them to do five case studies in the research project. When a child will meet five different patients, he will come to know:

- Name of their doctor
- Their nutrition
- Their life style
- Symptoms of disease
- Medication

- So research always encourages for further research and come to the conclusion for the problem. *In this era, we all need researchers, not crammers.*

Field Trips

Field trips, plays very important role in construction of concept. When a teacher takes his learner for a field trip, they obtain real life experience. Field Trips can be used for science and geography subject, if a teacher wants to teach the concept of herbs, shrubs and trees. We the children observe the plants, they themselves construct concept and makes their difference.

Classroom Discussion

Learning is incomplete without discussion. Classroom discussion is very help in constructing ideas because it removes doubts related to topic. It develops self-awareness, confidence, group cohesion, respect for others, communication, listening skills, etc.

So Activities are the soul of teaching learning process. A teacher must try to act as friend and develops wings of their learners.

Traditional Classrooms Vs Constructivist Classroom

The Traditional Classroom, teacher plays a very important role. The teacher plays an active role, whereas a child plays a passive role. Some important characteristics of the traditional classroom are:

- Begins with parts of the whole–Emphasizes basic skills
- Strict adherence to fixed curriculum
- Textbooks and workbooks are very important.
- The instructor gives/students receive.
- Encourages rote learning.

Constructivist Classroom

Constructivist classroom is a live classroom where the ideas are welcomed and take new shape. It is a child centric classroom where the young children apply their own knowledge and create the innovative concept. In this classroom, discoveries are welcome. Some important characteristics of constructivist classroom are as given below:

- Child centric
- Teachers act as facilitator
- Follow the maxim of whole to parts.
- Interaction based
- No fixed curriculum
- Integrated subjects

- Self-assessment of children is encouraged
- Encourage group activities.
- The child learns from his own experiences.
- Self-discipline is encouraged.

In teaching learning process teacher always plays an important role and try to imbibe his ideas in a child's mind, but this approach believes that a teacher should act as facilitator who promote the creative thinking of children in this own way.

How to Do Assessment

In Traditional system of evaluation, tests were commonly used for evaluation. The aim of the assessment was check the rote learning about learning. In that assessment method learning was directly proportional to marks in test, i.e. if a child scores more marks in test, it means he has mastery of the content and vice versa.

However, in Constructivist teaching, assessment is not based only on the tests. It also includes other areas like classroom observation, the students work, their point of view, their participation, etc. There are some important strategies which are used in constructivist teaching are given below:

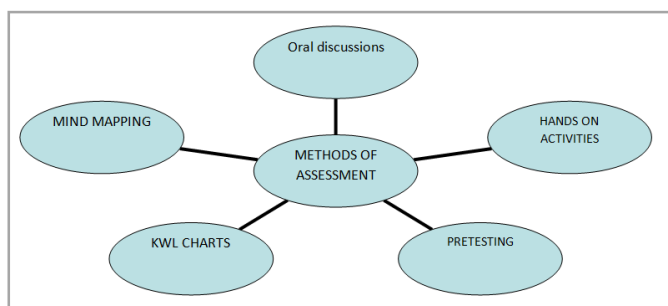


Figure 4

Oral Discussions

Oral discussions are very commonly used method in assessment. Open ended questions should be encouraged in teaching learning process because it develops thinking, reasoning and analytic skills among the children.

KWL (H) Charts

This method is used for assessment of each type of topic. It helps to know the starting position of child mind, his goal of learning, the path followed during teaching, learning, and feedback at the end of the topic. In other words, we can say what we know, what we want to know, what we have learned, how we have learned.

Mind Mapping

In this method child makes a mind map related to topic. This mind map helps a child to connect the knowledge step by step

Example: Suppose if a teacher wants to check the construction of concept with the help of mind mapping related to the water cycle. The mind map helps him to know the success related to the topic with the help of the given map:

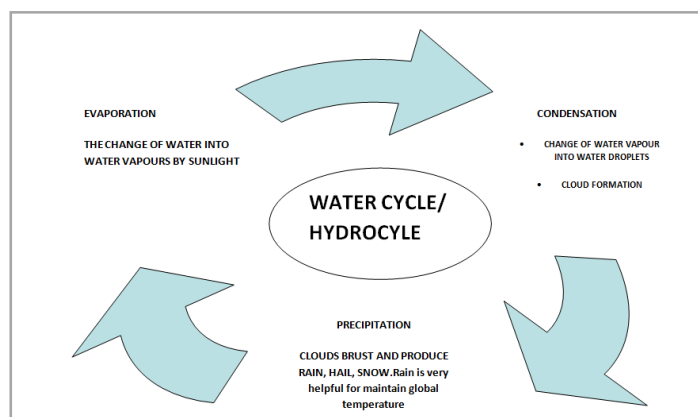


Figure 5

This mind map shows that a child has concept related to:

- Circulation of water
- The process involved in the water cycle
- Cloud formation and Rain formation
- Role of sunlight in water cycle.etc

Hands on Activities

Activity method is very helpful for the development of interest, attitude, aptitude, skills, team spirit, and etc. teacher can assess the performance of child during activity with the help of checklist having different rubrics. He should assess the success of learner with that available material with allotted time duration.

Example

Activity: To dissect the different parts of the flower

Material provided: China rose flower, forecep, 2 slides, cutter,

Checklist used by the teacher:

Time allotted: 30 minutes; CLASS: VII

Table 2

S. No.	Parts of Flower	Dissected	Not Dissected
1	Sepal		
2	Petal		
3	Anther		
4	Filament		
5	Stigma		
6	Style		
7	Ovary		
8	Pedical		

A child should be able to distinguish the male reproductive part and the female reproductive part after the completion of the activity.

Pre Testing

Pre assessment is very important in teaching learning process. It helps to know what new knowledge has brought by a child in the topic.

Problems Faced by Teachers in Class Room

- Old strategies of teaching are preferred: Teachers face lot problems while they go for teaching in the classroom because there is too much pressure of examinations, assessment, syllabus and authority.
- Too much syllabus: presently curriculum is over dominated by the syllabus and syllabus not inter related event. Syllabus completion on time always distracts teachers from activity oriented teaching.
- Dogmatic thinking

Lack of Creative Teachers

Appointment of teachers is also not as per as aptitude test. Many of the teachers take this job as a time pass job which causes wastage in teaching learning process. If we want constructors of knowledge, we need the supervisor who has an interest for the profession and creative minds.

Over Dominance of Examination

Examination system is very faulty because it is over dominated by test. A child is always caught in web of exams. Throughout the session, he only gives exams like weekly test, formative test, summative test etc.

Nothing can grow in pressure; if you want our learner to grow, let him be free remove the phobia of examinations

SUGGESTIONS

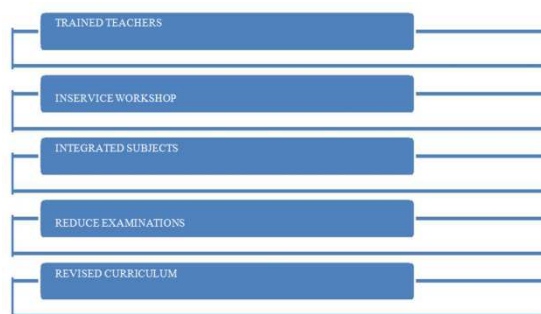


Figure 6

REDUCE EXAMINATIONS

Revised Curriculum

- **Trained Teachers:** A teacher is like a sailor who sails his boat to his destination. Teachers are not the transmitter of knowledge. They are the facilitator who guides his learner while he commits mistakes and shows right direction by self experience of learners. In teaching, learning institution, we need to train teachers who have quality, knowledge, fulfilment of ideas, creative thoughts, respect for the profession, an eagerness, curiosity, patience etc. Even an untrained teacher can spoil approximately 400 children in one day. So while we appoint a teacher, he should be sent for training. After the exam, he should be sent to the classroom.

It is well said, —A skilled teacher and a few good books can always cure ignorance.

- **In-service Workshops:** things change with time, ideas develop with time, then why not a teacher? In-service teacher programme should be organized so that teachers can be updated with new strategies and new learning skills.
- **Revised Curriculum:** curriculum should be revised as per as the speed of change. It should include content with present updates. In 2017, if we pick a textbook of S. St. we came to know that data presented in the textbook are about 10-15 years old.

Eg. In chapter —population we get a record of census 2001, why not for census 2017.

- **2 Time Examination in a Year.** (Term I & term 2): As our examinations are over dominated by exams, so we should try to reduce exam pressure, which will provide time to the learner for innovations and learning as per their taste. But a teacher can go from time to time formative assessment.
- **Integrated Subjects:** integration of subjects also save time of teachers as well as children. When curriculum is interrelated, one teacher can go for an exploration of topic with correlation. It will not promote cramming and pressure in children mind.

IMPLICATIONS OF CONSTRUCTIVISM IN TEACHING AND LEARNING

- Students' interest and needs are much more important than a text book.
- It encourages learning by doing and deriving knowledge from his experiences.
- Role of teacher is as facilitator.
- Develop the skills of analysis, judgment and creativity. Gives more importance of personal experience and context for knowledge development.
- Encourages self-assessment.
- Students learning depend on background knowledge.
- Sometimes a teacher has to select the activities for knowledge development.
- Encourages quality learning.
- Rote learning is replaced by experiment.
- It involves skill based and open minded approach.
- Encourages discovery, guided discovery, exploration and active learning.
- Develops team spirit and social adjustment.
- Naïve belief is used as starting off learning.

CONCLUSIONS

In my opinion, nothing is possible until and unless we want to accept the others ideas and stop thinking as dominant teacher. Let us act as a facilitator, not as a dominant teacher. *No idea can grow in the boundaries, let we give wings to the ideas of child and decide him to take his flight.* Constructive approach is a boon to the present teaching learning process but we all need to encourage the learning by doing and building of new ideas from pre-existing ideas. As cell theory saysl all cells arise from pre-existing cells. Similarly —Knowledge already resides in the human body we need the ways to explore itl Constructive approach is the best ever approach which can do the overall development of the child, i.e. physical, mental, social, aesthetic, vocational etc. When we create ideas themselves, it never forgets too. Constructivist approach is based on child psychology. It prepares a child to prepare for the future and makes him free from rote learning. It continuously encourages child participation. Learning is not possible without child active participation. Constructivism aims to construct knowledge from their experience. The teacher is like a friend as well as facilitator. His role is to explore the hidden content from the child's mind by continuous involvement.

REFERENCES

1. Laffey, J., Tupper, T., Musser, D., & Wedman, J. (1997). A computer-mediated support system for project-based learning. Paper presented at the annual conference of the American Educational Research Association, Chicago, IL.
2. Taber, K. S. (2011). Constructivism as educational theory: Contingency in learning, and optimally guided instruction. In J. Hassaskhah (Ed.), *Educational Theory* (pp. 39–61). New York: Nova.
3. Wood, & Middleton, (1975). A study of assisted problem solving. *British Journal of Psychology*, 66 (2), 181-191.
4. Louis Cohen, Lawrence Manion and Keith Morrison, 2004 Published on the companion web resource for *A Guide to Teaching Practice* (RoutledgeFalmer)
5. ^ Jean Piaget, 1967
6. ^Increasing Reading Comprehension and Engagement Through Concept-Oriented Reading Instruction, Guthrie et al., 2004, *Journal of Educational Psychology*, 96 (3), pp. 403–423
7. ^Kim, 2005. The Effects of a Constructivist Teaching Approach on Student Academic Achievement, Self-Concept, and Learning Strategies. *Asia Pacific Education Review*, 6 (1) p7-19
8. ^Doğru and Kalender, 2007, Applying the Subject —Cellll Through Constructivist Approach during Science Lessons and the Teacher's View, *Journal of Environmental & Science Education*, 2 (1), 3-13